

Distinguish, differentiate, compare and explain what is the difference between ductility and malleability of materials. Comparison and Differences.

## **Difference between Ductility and Malleability of Materials**

1. Ductility is the ability of a material to undergo deformation under tension without rupture whereas Malleability is the capacity of a material to withstand deformation under compression without rupture.
2. Ductility is a property of material by virtue of which it can be drawn into wires while Malleability is the property by virtue of which a material may be hammered or rolled into thin sheets.
3. Ductility is a tensile property whereas Malleability is a compressive property.
4. Ductility depends upon the grain size of the metal crystal while Malleability depends upon the crystal structure of the material.
5. Ductility Examples: Mild steel, copper, aluminum, zinc, nickel, tin etc. Malleability Examples: Gold, silver, aluminum, tin, zinc, wrought iron etc.

Steady Run